

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	55	(562/824).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/06/06 07:23
L2	263	fluorine adj liquid	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L3	5786	fluorine adj gas	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 07:23
L4	5999	(fluorine adj liquid) or (fluorine adj gas)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L5	1191	elemental near3 fluorine	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L6	6896	((fluorine adj liquid) or (fluorine adj gas)) or (elemental near3 fluorine)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 06:32
L7	0	US-06586626-\$ DID.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L8	173	560/184	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L9	3	(fluorine adj liquid) and 560/184	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L10	1	US-0658662-\$ DID.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L11	1	"0056694".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41

## EAST Search History

L12	7	((562/825).CCLS.) and ((fluorine adj liquid) or (fluorine adj gas))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L13	5	((562/825).CCLS.) and (elemental near3 fluorine)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L14	17	(((fluorine adj liquid) or (fluorine adj gas)) or (elemental near3 fluorine ) and (US-6586626-\$ DID. OR US-3900372-\$ DID. OR US-4524032-\$ DID. OR US-4868318-\$ DID. OR US-4996369-\$ DID. OR US-5093432-\$ DID. OR US-5322903-\$ DID. OR US-5466877-\$ DID. OR US-0488142-\$ DID. OR US-5571870-\$ DID. OR US-5578278-\$ DID. OR US-5674949-\$ DID. OR US-5753776-\$ DID. OR US-6093860-\$ DID. OR US-6255536-\$ DID.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L15	29	US-6586626-\$ DID. OR US-3900372-\$ DID. OR US-4524032-\$ DID. OR US-4868318-\$ DID. OR US-4996369-\$ DID. OR US-5093432-\$ DID. OR US-5322903-\$ DID. OR US-5466877-\$ DID. OR US-5488142-\$ DID. OR US-5571870-\$ DID. OR US-5578278-\$ DID. OR US-5674949-\$ DID. OR US-5753776-\$ DID. OR US-6093860-\$ DID. OR US-6255536-\$ DID.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L16	2	"6586626".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L17	2	("3900372").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/06/06 05:41
L18	137	(562/825).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/06/06 05:41
L19	934	fluorosulfonyl	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41

## EAST Search History

L20	1041	fluorosulfonyl\$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L21	1251	L19 or L20	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L22	4271	(sulfonylfluoride) or (sulfonyl adj fluoride)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L23	58	L21 same L22	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L24	4	L4 and L23	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L25	29	US-6586626-\$.DID. OR US-3900372-\$.DID. OR US-4524032-\$.DID. OR US-4868318-\$.DID. OR US-4996369-\$.DID. OR US-5093432-\$.DID. OR US-5322903-\$.DID. OR US-5466877-\$.DID. OR US-0488142-\$.DID. OR US-5571870-\$.DID. OR US-5578278-\$.DID. OR US-5674949-\$.DID. OR US-5753776-\$.DID. OR US-6093860-\$.DID. OR US-6255536-\$.DID.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L26	2	"6255536".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 05:41
L27	692	((fluorine adj liquid) or (fluorine adj gas)) or (elemental near3 fluorine) and ((sulfonylfluoride) or (sulfonyl adj fluoride))).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 06:34
L28	225	((fluorine adj liquid) or (fluorine adj gas)) or (elemental near3 fluorine) and ((sulfonylfluoride) or (sulfonyl adj fluoride))).clm.	US-PGPUB	OR	ON	2006/06/06 06:34
L29	225	((fluorine adj liquid) or (fluorine adj gas)) or (elemental near3 fluorine) and ((sulfonylfluoride) or (sulfonyl adj fluoride)) and decompos\$).clm.	US-PGPUB	OR	ON	2006/06/06 06:35
L30	4	(fluorine and ((sulfonylfluoride) or (sulfonyl adj fluoride)) and decompos\$).clm.	US-PGPUB	OR	ON	2006/06/06 06:35

## EAST Search History

L31	137	(562/825).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/06/06 07:23
L32	242677	fluorine	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 07:23
L33	57	I31 and I32	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/06 07:24

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FILE LAST UPDATED: 5 Jun 2006 (20060605/ED)

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=> sulfonylfluoride or (sulfonyl fluoride)  
90 SULFONYLFLUORIDE  
6 SULFONYLFLUORIDES  
96 SULFONYLFLUORIDE  
(SULFONYLFLUORIDE OR SULFONYLFLUORIDES)  
29947 SULFONYL  
18 SULFONYLS  
29958 SULFONYL  
(SULFONYL OR SULFONYLS)  
249387 FLUORIDE  
44668 FLUORIDES  
265073 FLUORIDE  
(FLUORIDE OR FLUORIDES)  
981 SULFONYL FLUORIDE  
(SULFONYL (W) FLUORIDE)  
1064 SULFONYL FLUORIDE OR (SULFONYL FLUORIDE)

=> fluorine  
100846 FLUORINE  
533 FLUORINES  
L2 101142 FLUORINE  
(FLUORINE OR FLUORINES)

=> 11 and 12  
I-3 83 I-1 AND I-2

```
=> 73-83 ti  
    158804 73  
    162706 83  
    344835 TI  
        1144 TIS  
    345678 TI  
          (TI OR TIS)
```

L4           0 73-83 TI  
             (73 (W) 83 (W) TI)

=> d 17 73-83 ti

L7 NOT FOUND

The L-number entered has not been defined in this session, or it has been deleted. To see the L-numbers currently defined in this session, enter DISPLAY HISTORY at an arrow prompt (=>).

=> d 13 73-83 ti

L3   ANSWER 73 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Photochemical etching of silicon dioxide surface layer

L3   ANSWER 74 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI    $\beta$ -Sultones containing fluorine. XXXII.  
      Fluorosulfo-containing triazines

L3   ANSWER 75 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI    $\beta$ -Sultones containing fluorine. XXVII.  
       $\alpha$ -Hydrotetrafluoroethanesulfonic acid derivatives

L3   ANSWER 76 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Aromatic fluoro derivatives. XXIV. Fluorine-substituted benzenesulfonyl fluorides

L3   ANSWER 77 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Fluorine-containing carbon compounds

L3   ANSWER 78 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Structure and reactivity of fluorine-containing  $\beta$ -sultones

L3   ANSWER 79 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Reactive dyes containing fluorosulfonyl groups

L3   ANSWER 80 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Fluorine-containing  $\beta$ -sultones. II. Hydrolysis of tetrafluoroethane  $\beta$ -sultone

L3   ANSWER 81 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Toxic fluorine compounds. VIII.  $\omega$ -Fluoroalkanesulfonyl chlorides and fluorides

L3   ANSWER 82 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Substituted pyridines

L3   ANSWER 83 OF 83 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Sulfonyl fluorides of amino azo dyes

=> l1(1012

MISSING OPERATOR 'L1(L0L2'

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> l1(1)12

L5           25 L1(L) L2

=> d 15 10-25 ti

L5   ANSWER 10 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Dissolution characteristics of acidic groups for 157-nm resist

L5   ANSWER 11 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI   Process for the preparation of fluorinated derivatives of nucleosides or

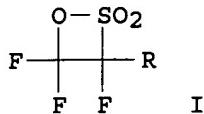
sugars

- L5 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Chemical modification of a Nafion sulfonyl fluoride precursor via in situ sol-gel reactions
- L5 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Chemical treatment of glass surface with fluorine-containing silanes
- L5 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Photopolymerized Epoxide Copolymer Thin Films with Surfaces Highly Enriched with Sulfonyl Fluoride Groups
- L5 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI New polyfluoroalkoxysulfonyl fluorides. Part VIII. Alcoholic and polymeric derivatives
- L5 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Separation of perfluoroalkyl sulfonyl fluoride
- L5 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI A useful synthesis of  $\omega$ -iodoperfluoroalkanesulfonyl fluorides and perfluoroalkane- $\alpha$ , $\omega$ -bis-sulfonyl fluorides
- L5 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Improved acid electrolytes - the synthesis and structure of fluorine-containing sulfonic acids for fuel cells. Final report July 1987-August 1988
- L5 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for manufacture of hypofluorites and bishypofluorites
- L5 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI New sulfonyl fluoride esters
- L5 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Synthesis and evaluation of fluorine-19-labeled sulfonyl fluorides as probes of protease structure:  $\alpha$ -chymotrypsin
- L5 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Fluorine-containing  $\beta$ -sultones. 50. Geminal bis(fluorosulfonyl)-containing compounds
- L5 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Inorganic volatile fluorides obtained from electrical decomposition of sulfur hexafluoride in a quartz tube
- L5 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Fluorine-containing  $\beta$ -sulfones. 46. 2-Hydrohexafluoropropane-2-sulfonyl fluoride
- L5 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Substituted pyridines

=> d 15 20 ti fbib abs

- L5 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI New sulfonyl fluoride esters  
AN 1987:477290 CAPLUS  
DN 107:77290  
TI New sulfonyl fluoride esters  
AU Khalilolahi, Jilla; Mohtasham, Javid; Lerchen, Megan E.; Sheets, Roger M.; Gard, Gary L.  
CS Dep. Chem., Portland State Univ., Portland, OR, 97207, USA

SO Inorganic Chemistry (1987), 26(14), 2307-9  
CODEN: INOCAJ; ISSN: 0020-1669  
DT Journal  
LA English  
OS CASREACT 107:77290  
GI



AB New **sulfonyl fluoride esters** FSO<sub>2</sub>CF<sub>2</sub>C(O)ORf [Rf = CF<sub>3</sub>CH<sub>2</sub>, (CF<sub>3</sub>)<sub>3</sub>C, C<sub>6</sub>F<sub>5</sub>], FSO<sub>2</sub>CF(CF<sub>3</sub>)C(O)ORf [Rf = CF<sub>3</sub>CH<sub>2</sub>, (CF<sub>3</sub>)<sub>2</sub>CH, C<sub>6</sub>F<sub>5</sub>], and FSO<sub>2</sub>CF(CF<sub>3</sub>)C(O)OR (R = Et, allyl) were prepared by using the perfluoro sultones I (R = F, CF<sub>3</sub>) with appropriate polyfluoro/perfluoro alcs. or hydrocarbon alcs. in the presence of NaF. In a like manner the diester [FSO<sub>2</sub>CF(CF<sub>3</sub>)C(O)OCH<sub>2</sub>]<sub>2</sub> was prepared from ethylene glycol and I (R = CF<sub>3</sub>). Unlike the fluorinated esters with **fluorine** at the alkoxy  $\alpha$ -carbon atoms, these esters are stable in the presence of fluoride ion at 25° or higher temperature Their IR, NMR, and mass spectra are reported.

=> d 15 1-9 ti

- L5 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Simple transformation of thymine 1-[3-hydroxy-2-(phosphonomethoxy)propyl] derivatives to their 1-[3-fluoro-2-(phosphonomethoxy)propyl] counterparts
- L5 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Pyrimidine 1-[2-(phosphonomethoxy)propyl] derivatives: their syntheses and utilization as potent inhibitors of thymidine phosphorylase (PD-ECGF) from Sd-lymphoma
- L5 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Method for producing **fluorine**-containing unsaturated **sulfonyl fluoride**
- L5 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Preparation of stabilized fluoropolymer
- L5 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for production of fluorinated sulfonyl fluorides useful for ion exchange resins and chemical-resistant substances
- L5 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for preparation of perfluorinated sulfonyl fluorides
- L5 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Method for producing **fluorine**-containing **sulfonyl fluoride** compound
- L5 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes
- L5 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Fluoro type surfactants

=> d 15 3,5-7 ti fbib abs

L5 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Method for producing fluorine-containing unsaturated  
sulfonyl fluoride  
AN 2005:729629 CAPLUS  
DN 143:193723  
TI Method for producing fluorine-containing unsaturated  
sulfonyl fluoride  
IN Sugiyama, Akinari; Ichihara, Kazuyoshi; Shinoki, Noriyuki; Mantani,  
Toshiya; Kondou, Masahiro  
PA Daikin Industries, Ltd., Japan  
SO PCT Int. Appl., 20 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005073182	A1	20050811	WO 2005-JP1005	20050126
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

JP 2004-25768

A 20040202

OS CASREACT 143:193723; MARPAT 143:193723  
AB A method for producing a fluorine-containing unsatd.  
sulfonyl fluoride represented by the chemical formula  
 $\text{RfSO}_2\text{F}$  (wherein Rf is a fluorine-containing hydrocarbon group having  
at least one unsatd. bond and may contain at least one element selected  
from oxygen, nitrogen and sulfur) is characterized in that a  
fluorine-containing unsatd. sulfonyl chloride represented by the chemical  
formula  $\text{RfSO}_2\text{Cl}$  (wherein Rf is as defined above) is reacted with at least  
one fluorinating agent selected from alkylamine hydrofluoride, pyridine  
hydrofluoride, and polyvinylpyridine hydrofluoride. By this method, a  
fluorine-containing sulfonyl fluoride having an  
unsatd. bond can be com. advantageously produced at low cost.  
Furthermore, this method enables to produce the fluorine-containing  
unsatd. sulfonyl fluoride in a simple procedure with  
high selectivity and high yield. Thus, 20.0 g  $\text{CF}_2:\text{CFOCF}_2\text{CF}_2\text{SO}_2\text{Cl}$  was  
added dropwise at 1.67 g/min to 33.5 g  $\text{Et}_3\text{N} \cdot (\text{HF})_3$  with stirring at  
22° during which the liquid temperature rose from 22° to 33°.  
After completion of the addition, the resulting mixture was stirred for  
.apprx.1 h to give a reaction mixture with three phases  $\text{Et}_3\text{N} \cdot (\text{HF})_n$  ( $n = 4-6$ )  
(liquid phase)/ $\text{Et}_3\text{N} \cdot \text{HCl}$ (solid phase)/ $\text{CF}_2:\text{CFOCF}_2\text{CF}_2\text{SO}_2\text{Cl}$  (product liquid phase)  
(bottom phase) which was distilled by a simple distillation to give 96.0%  
 $\text{CF}_2:\text{CFOCF}_2\text{CF}_2\text{SO}_2\text{Cl}$ .

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for production of fluorinated sulfonyl fluorides useful for ion  
exchange resins and chemical-resistant substances  
AN 2005:29302 CAPLUS  
DN 142:114654  
TI Process for production of fluorinated sulfonyl fluorides useful for ion  
exchange resins and chemical-resistant substances  
IN Murata, Koichi; Okazoe, Takashi; Murotani, Eisuke  
PA Asahi Glass Company, Limited, Japan

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005003082	A1	20050113	WO 2004-JP9769	20040702
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP	1642890	A1	20060405	JP 2003-271071 EP 2004-747237	A 20030704 20040702
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
				JP 2003-271071 WO 2004-JP9769	A 20030704 W 20040702
US	2006111584	A1	20060525	US 2005-318978	20051228
				JP 2003-271071 WO 2004-JP9769	A 20030704 A1 20040702

AB Title process comprises (i) oxidizing a compound YSRAERB with an oxidizing agent containing a halogen atom as the essential constituent into a compound XSO<sub>2</sub>RAERB, (ii) converting the obtained compound into FSO<sub>2</sub>RAFEFRBF by reacting with fluoride when X is a fluorine atom or after conversion of X into a fluorine atom when X is a halogen atom other than fluorine in a liquid phase, and (iii) decomposing this compound into a compound FSO<sub>2</sub>RAFCOF, wherein RA = a divalent organic group such as alkylene; RB, RBF = a monovalent organic group such as perfluoroalkyl; E = CH<sub>2</sub>OCO; Y = a monovalent organic group such as cyano; X = a halogen atom; RAF = a divalent organic group obtained by fluorinating RA; and EF = CF<sub>2</sub>OCO. Thus, 21.7 g 3-bromo-1-propanol and 64.1 g 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-propanoyl fluoride reacted, the resulting compound was reacted with thiocyanic acid potassium salt, reacted with chlorine, substituted with fluoride, perfluorinated, and decomposed to give perfluoro(3-fluorosulfonyl)propionyl fluoride, which was reacted with hexafluoropropene oxide in the presence of cesium fluoride and diglyme, potassium hydrogen carbonate and glyme were added therein, and heated at 180-210° to give FSO<sub>2</sub>(CF<sub>2</sub>)<sub>3</sub>OCH<sub>2</sub>:CF<sub>2</sub>.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Process for preparation of perfluorinated sulfonyl fluorides  
AN 2005:29287 CAPLUS  
DN 142:113432  
TI Process for preparation of perfluorinated sulfonyl fluorides  
IN Murata, Koichi; Okazoe, Takashi; Murotani, Eisuke  
PA Asahi Glass Company, Limited, Japan  
SO PCT Int. Appl., 52 pp.  
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005003062	A2	20050113	WO 2004-JP9779	20040702
	WO 2005003062	A3	20050324		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

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EP 1640362	A2	20060329	EP 2004-747247	20040702
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
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			WO 2004-JP9779	A1 20040702

OS MARPAT 142:113432

AB This invention pertains to a method for producing fluorinated sulfonyl  
 fluorides with general formula of  $(FSO_2)_nRAF(EF_1)_m$  [wherein RAF = a  
 (fluorinated)  $(n+m)$  valent organic group having two or more carbon atoms; EF<sub>1</sub>  
 = one valent organic group;  $n \geq 2$ ;  $m \geq 1$ ] via fluorination and  
 decomposition. For example,  $(FSO_2CF_2)_2CFCOF$  was prepared in a multi-step  
 synthesis starting from  $(BrCH_2)_2CHCO_2H$  in good yield. This invention  
 provides a convenient method to prepare perfluorinated sulfonyl fluorides at  
 low cost with industrial advantages.

L5 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

TI Method for producing fluorine-containing sulfonyl  
fluoride compound

AN 2004:927161 CAPLUS

DN 141:395193

TI Method for producing fluorine-containing sulfonyl  
fluoride compound

IN Murata, Koichi; Okazoe, Takashi; Murotani, Eisuke

PA Asahi Glass Company, Limited, Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

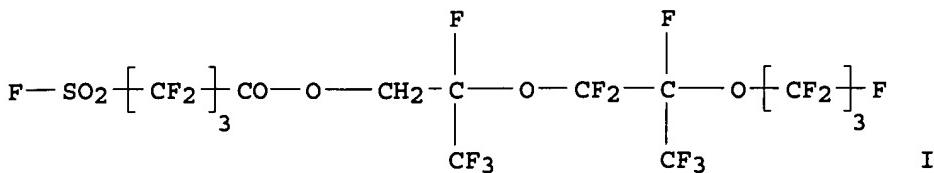
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004094365	A1	20041104	WO 2004-JP5874	20040423
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
				JP 2003-119874	A 20030424

OS CASREACT 141:395193

GI



**AB** A method for producing a **fluorine-containing sulfonyl fluoride** compound which comprises oxidizing  $\text{RB-E-RA-S-S-RA-E-RB}$  to form  $\text{XSO}_2\text{-RA-E-RB}$ , reacting the oxidation product with **fluorine** in a liquid phase to form  $\text{FSO}_2\text{-RAF-EF-RBF}$ , and decomposing the fluorination product to prepare  $\text{FSO}_2\text{-RAF-COF}$  [ $\text{RA}$  = divalent organic group;  $\text{RAF}$  = divalent organic group or the like;  $\text{RB}$  = monovalent organic group;  $\text{RBF}$  = monovalent organic

group or the like; E = -COOCH<sub>2</sub>-; EF = -COOCF<sub>2</sub>- ; X = halo] is disclosed. The method is almost free from major conventional difficulties associated with the production of the above **sulfonyl fluoride**, and also allows the production of fluorine-containing **sulfonyl fluoride** compds. having various mol. structures and being useful as a raw material for an ion exchange resin or the like with good efficiency at a low cost. For example, a mixture of compound I (4.2 g), e.g., prepared from (S(CH<sub>2</sub>)<sub>3</sub>COOH)<sub>2</sub> in 4 steps, and NaF (0.03 g) was stirred at 140 °C for 10 h and analyzed by GC-MS. The yield of FSO<sub>2</sub>(CF<sub>2</sub>)<sub>3</sub>COF was 73.7%. Of note, disclosed compds. are useful intermediates for ionic exchange resin.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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